

16 November 1958

Approved For Release 2002/02/13 : CIA-RDP80B01676R003800120007-3

Executive Registry

10-9/22

DR. WILLARD LIBBY INTERVIEWED

FULL TEXT:

Face The Nation at 12:30 p.m. over WCBS-TV (NY) and CBS Television Network:

THE TV SCREEN SHOWED DR.
LIBBY SITTING IN THE STUDIO
OPPOSITE THE MODERATOR AND
PRESS TABLE.

ANNOUNCER: "Commissioner Libby, face the nation. In the midst of apparently deadlocked disarmament talks between East and West in Geneva, Switzerland, you're about to see Dr. Willard Libby, member of the U.S. Atomic Energy Commission, face the nation in a spontaneous and unrehearsed interview with veteran correspondents representing the nation's press; Nat Finney, Washington bureau chief of the Buffalo Evening News, George Hermann of CBS News, and William H. Lawrence, national correspondent of the New York Times. And now from CBS News the moderator of Face the Nation, Stewart Novins."

NOVINS: "The current talks between East and West in Geneva, talks that are designed to try to find a way to stop nuclear weapons tests, appear to be facing a very crucial period. Not only is there the expected difference of views between Russia and the United States, but there is some question here at home also as to whether we should want to stop nuclear weapons tests.

"Today Dr. Willard F. Libby, of the United States Atomic Energy Commission, is here to face the nation. Dr. Libby, you're the only scientist on the commission--which opens questions not only to political aspects but the physical aspects of atomic energy and terms of both war and peace. So let's start the question, if you will, with Mr. Lawrence."

LAWRENCE: "Dr. Libby, is it your personal opinion that we will be able to reach some kind of a satisfactory agreement at Geneva to cease nuclear testing with spot controls or.."

LIBBY: "I really have no opinions about that, Mr. Lawrence. I hope we can. I would say that there's publicly a desire on the part of the people of the world that something be done about uncontrolled armaments of which nuclear weapons is a principal part, but to predict the political developments of the conference would be beyond my powers. I just hope that some kind of chance remains."

HERMAN: "Dr. Libby, while the diplomats work at Geneva what is our situation as far as tests are concerned? Did we get all the tests we wanted in under the wire or do we have another test period ready to go if the talks at Geneva should fail?"

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EXECUTIVE REGISTRY FILE

LIBBY: "Well, our tests series were not quite completed. But the way it goes, Mr. Herman, is that we study the results and we prepare for further work, and I would say that essentially most of our objectives were obtained. We left one device hanging on a balloon--the weather was bad, and we went right up to the last minute there and left it hanging there, but most of our--most of our objectives were obtained, yes."

FINNEY: "Dr. Libby, one of the Russians at Geneva has made the accusation that the United States is attempting to protract and prolong those talks so that it can prepare for another series of tests while the whole business of testing is in suspension. Would you comment on that?"

LIBBY: "I certainly can, Mr. Finney. There's not a bit of truth in that. Our objective at Geneva is to obtain a controlled cessation not only of testing but beginning on disarmament, and we are anxious that the matter of controls be assured. Now I do not believe that there's any substance to that statement at all."

FINNEY: "Would it be true, Dr. Libby, that we are not suspending our work at our laboratories, which generally speaking is done pursuant to future testing?"

LIBBY: "That's quite right, Mr. Finney. We are not suspending our work at our laboratories and we are at the present time engaged in digesting the results of past experiments and of planning for the possible future ones in case the negotiations should break down.

"And an important additional function in our laboratories is to prepare for the non-military applications of nuclear explosions, the so-called plowshare projects, where we make harbors, make canals, remove over-burdens from mining properties, open up mining properties underground -- for example, a copper mine can be made minable by, we hope, by exploding a nuclear device in it to shatter the rock. We hope that oil shales can be made more useful, and so on and so on.

"We have many possible applications and the weapons laboratories are turning their attention more and more to this very important plowshare project. But we want to keep them strong; they are principal asset of our national defense."

LAWRENCE: "Well, are we free, sir, to go ahead with that kind of a nuclear explosion if we wished to dig a harbor?"

LIBBY: "Well, as you know, the President in his statement on August 22nd said that the convention in Geneva would take note of this, and take steps to assure its continuation. It has not been a principal point of the argument in Geneva. They've been nailing (?) at more substantial matters, the control system and things of this sort which -- and the agenda matters, but this is our position, yes."

LAWRENCE: "But in terms of a self-imposed ban, which we now have, on weapons testing, are we free to go ahead with a harbor project?"

LIBBY: "We certainly are planning to do so. Now, the course of events

depends on whether the Russians begin testing again or not. You know, they shot a bomb on November 1st and another on November 3rd, and there was a statement issued by the White House and we'll see whether they shoot any more like that."

LAWRENCE: "Sir, in approximate terms --I realize there's security involved here-- approximately how many nuclear test explosions have there been?"

LIBBY: "Well, I'm sorry, I don't remember the number. I can estimate -- I think I'd better not guess. It's a large number."

LAWRENCE: "Well, would you guess-estimate again the proportion between, say, the Western world and the Soviet Union? I am now speaking of tests."

LIBBY: "Oh, the Western world has had many more. The Soviet Union -- it depends a lot on what you're testing, Mr. Lawrence. A large hydrogen bomb is many times the equivalent of a small atomic bomb -- you realize that. And a good bit of our testing in recent times has been in the direction of defensive weapons, which is the smaller type, and also the development of tactical weapons which are of the smaller type, so counting explosions is not quite the fair way to do it."

LAWRENCE: "Well, objectively speaking, Sir, is there any -- is there any merit at all in the Soviet allegations that they need some more testing to catch up with us, in the sense of ..."

LIBBY: "Well, I do believe that the Soviet Union is behind us in our nuclear armament. But the Soviet Union has a different position. We are not going to attack them, unprovoked. And so we have to have defensive weapons which are ready to go on the instant all over the enormous area we have to protect. And this is why a much more complete type of nuclear armament than an offensive armament is required. And this is the essence of it. And we aim to develop these tactical and defensive weapons if we're allowed to test further. We've made good progress but we have more to do."

HERMAN: "When you say, Dr. Libby, that the Russians are behind us, do you mean in variety and technique of weapons rather necessarily than in numbers?"

LIBBY: "Both."

HERMAN: "In both. At one time, sir, in our disarmament negotiations we wanted controls on production so that we could be sure that no fissionable material would be diverted to weapons' production. Now apparently we're pressing for a ban on further testing. Does this mean..."

LIBBY: "Oh, no, Mr. Herman, you see, the situation is that we have two requirements there for our program. One is the controls, and the other -- I've

forgotten the exact wording -- substantial steps, or substantial progress toward other areas of disarmament. Now you certainly should include in that the control of production of nuclear weapons and other things."

HERMAN: "At one time, however, we were making that a prerequisite, Apparently now it's been dropped down somewhat in..."

LIBBY: "I think you'll find it's still in the papers, that the some-kind evidence of progress towards disarmament in general, in addition to the controls, is a requisite for a test agreement in our position."

NOVINS: "Dr. Libby, in connection with the question Mr. Lawrence asked you a moment ago, regarding the Russian and the United States progress in terms of testing, from another point of view, the point of view of all-out, you monitor all of these tests, obviously, and you keep a pretty close track on radiation. Can you tell us, sir, whether the Russians or the United States have polluted the air more in these tests that have so far transpired?"

LIBBY: "We have not completed our measurements on the last Russian series, which was a very heavy one, Mr. Novins, so it's very difficult for me to answer. It depends on how the winds blow and how the thing actually -- how the fall-out actually occurred. I think the last Russian test series was a very heavy one."

NOVINS: "Well, where did we stand prior to that test, Dr.?"

LIBBY: "Well, prior to this test the Russians made very substantial but I would say not the largest contribution to the fall-out, if I may speak that way. Our test series in 1954 in the Pacific was a very heavy one in terms of the worldwide fall-out. Now this is very well-known. Now -- but since then the contributions have been comparable, I would say."

FINNEY: "Do you see any evidence in the radiation checking that you've been making that the Russians are attempting to produce a so-called clean bomb?"

LIBBY: "Not a bit. I'm discouraged about this, for I think that it's an important development to give the general (?) alternative of not destroying thousands of square miles of good farm land unless they want to. You understand that the fall-out from a normal or what you might call a dirty device --normal fission device-- will blanket out and make unfit for farming several thousand square miles of farm land for every megaton surface shot.(?) Now you think what that means in a military campaign, and it may be as much as ten per cent of your farming area is gone for 40 years or something like that. And this is the thing which they may not want to do."

"The clean bomb allows them this alternative, affords them this alternative. Now you may say that the clean bomb itself is horrible and that is true, the clean bomb is. But it does at least offer the possibility of separating the blast and thermal effects from the fall-out itself."

FINNEY: "But you see no evidence that the Russians are working on this."

LIBBY: "None at all, none at all."

HERMAN: "Dr. Libby, I'd like to switch this a little. Dr. Walter Frimm, who I'm sure you know and who's been the consultant -- he's worked for the AEC, and been consultant for the current committee on the Hill -- is reported today as saying that there is some reason to believe that the Russians are moving faster than we are and more efficiently in the development of atomic power -- this would be atomic not thermo-nuclear, but in atomic power; and the thing that seems striking about this is that he says that he believes that they scale up their models and they move faster with each model. Have you ever seen any reason to believe that that is the case?"

LIBBY: "Well, the Russians disclosed in the last days of the recent Geneva conference on the peaceful atom, they disclosed a motion picture of a large plutonium-producing reactor which they had used to make power. Now we in this country have never thought that this was a particularly desirable thing to do. Though we are engaging during the next year to build such a dual-purpose reactor at Hanford, Washington, in general our reactors which have produced plutonium for bombs do that and then we make a separate reactor for atomic power.

"Now this is -- the Russians have been making, have made a large dual-purpose reactor. I think it's a bad idea in a general way. It's all right to do one or two of them, but to make your main power program depend upon it I think is a mistake. However I want to say this, that the Russians have a varied attack, and I have great respect for the Russian atomic power program. I do not believe it's ahead of ours."

FINNEY: "Dr. Libby, didn't you, in effect, lock horns -- the commission in effect lock horns -- with Dr. Grimm and the joint committee on this dual-purpose reactor?"

LIBBY: "I wouldn't say locking horns is quite the correct interpretation -- description -- of it, Mr. Finney. I think we've now come to a meeting of the minds and all of us are pretty wholeheartedly agreed about our present program. And we will try to build a reactor, it's in the design stage now, and we'll probably build a reactor at Hanford which is of dual purpose. In this way we'll learn just how good they are."

HERMAN: "Dr. Libby, after the Geneva peaceful atom conference which you've mentioned, Chairman McCone of the AEC said that he thought the scientists who had returned from the meeting held the feeling that the scientists of the other side probably did not have the degree of sophistication that our side had. Is that..."

LIBBY: "Sophistication in science, Mr. Herman, is a -- you remember Professor Einstein in his old clothes and tousled hair. Perhaps he wasn't the personification of sophistication physically, but he certainly was scientifically and intellectually. I believe that we do lead the world in the engineering type of scientific sophistication and we do have many of the world's leading scientists, but it certainly is not true that we have any monopoly or any predominance on the genius in the scientific world, and if this be true sophistication -- I think that the chairman did not mean that."

LAWRENCE: "There's one other question along the same line that I wanted to ask you, sir. General Trudeau has stated in the past that he believes that the Russians' rapid progress is due more to espionage and to stealing secrets from other scientists than from their own scientific ability."

LIBBY: "Well, I believe that espionage has helped them in certain times. I remember Dr. Fuchs, whom I knew quite well and I'm sure he helped them a very great deal. He was a very knowledgeable man, and apparently a very dedicated Communist and a thoroughly expert spy. And I'm sure he helped them a great deal."

"On the other hand, to depend entirely on a spy's report would be a mistake. And so you must do something all your own, and to say that it was done by espionage is wrong. It's hard to know what fraction was; certainly some of it was."

HERMAN: "Dr. Libby, have we got anything through espionage from them?"

LIBBY: "Nothing significant."

LAWRENCE: "Dr. Libby, to change again to the field of peaceful power development, is there anything in the Congressional election returns, which was a landslide for the Democrats, to suggest to the commission that perhaps there is larger public support for an enlarge public development of peaceful atomic power, as the Democrats have been contending?"

LIBBY: "Well, most of our work is not very political, Mr. Lawrence. We have certain areas where the political controversy seems to flourish, but in large sections the Atomic Energy Commission's work is not political. And so I'd say, by and large, the answer is no. I don't believe that there's any reason to suppose that there'll be a great change in policy as a result of the election. We work very closely with the Joint Committee on Atomic Energy and we're working more closely all the time. And I believe that there will be relatively little change."

LAWRENCE: "I think it's fair to say, Dr. Libby, that there was very little political controversy between the Commission, the Congress, except during the tenure of Admiral Strauss as chairman. And there was, no one can deny, a great deal of controversy between him and the committee. Would you think that under chairman McCone that perhaps the non-political aspects of the Commission would become more apparent than they were during the last few years?"

LIBBY: "I think it is true that there were areas of controversy which are connected with--which occurred during Admiral Strauss' tenure. But there were very large areas where there was no controversy--for example, in the field of isotopes development. This is one of my favorite subjects. There was never any controversy about this--the great benefits mankind has from the use of radioactive byproducts of the atomic reactors. Now a lot depends on this. Admiral Strauss promoted this, Chairman Durham promoted it, Chairman Cole, and Chairman Anderson. I mean, there was no controversy about it. In atomic weapons there's very rarely been controversy though there has been a little bit there. But in large areas there's been very little."

LAWRENCE: "Is there any radiation in that..."

LIBBY: "No, no, it's self-contained. It has a very soft very soft Beta ray, as we call it. The Beta ray is the ray that travels about that far in solid matter so it does not escape. And there's no radiation in escaping and hitting your hand. And it runs entirely without winding, or without ticking or without any other source of energy other than the radioactive isotopes."

HERMAN: "May we presume it does not have a radium painted dial?"

LIBBY: "It does not have a radium painted dial, though I'd be the first to say that radium painted dials have a limited source of hazard. They are not extremely hazardous."

LAWRENCE: "Dr. Libby I have the feeling that we may have lost sight of part of the basis of one of the questions that was asked you a few moments ago, in regards to public funds for power reactors..."

LIBBY: "Oh!"

LAWRENCE: "...forgetting the political aspects of it."

LIBBY: "I do believe, Mr. Lawrence--I'm sorry I didn't complete the answer to the question--I do believe that we will have plenty of money to proceed with our plans."

LAWRENCE: "How are we going to use the money?"

LIBBY: "Well, I hope we will use it and use it wisely. Our problem has always been not so much a matter of money as how to spend it, and most particularly to find the technical people who knew how to make the inventions necessary for advancing. Our problem has always been more a matter of limitations on qualified scientists and engineers than on money, and it still is today."

HERMAN: "Well, recognizing those limitations, Dr. Libby, do you have a time-table now?"

LIBBY: "We do have a time-table that is quite close the the Joint Committee's time-table. We aim to have demonstrated power in ten years in this country. Now that doesn't mean all over this country, but in certain areas. And we aim to have demonstrated atomic power in Europe in five years. Now the kind of defination you give of--I mean--atomic power that is demonstrated to be economic--now the kind of definition you give of economic atomic power may cause you to say there is some difference between the Joint Committee and the Commission, but it is minimum. We are pretty close in our judging."

NOVINS: "Mr. Finney?"

FINNEY: "Dr. Libby, with all this discussion about disarmament I'd like to ask you what would be the impact upon our uranium industry, fall of the feed stuffs industry, if we did reach an agreement on disarmament we stopped manufacturing nuclear weapons, and stood on the let us say, on the stock piles, we already had. What would happen?"

LIBBY: "Well, that's a good question, Mr. Finney. I--at the present time most of our uranium goes to make bombs and so at the present time if you cut it off just immediately, you would have a large effect, unless the country were willing to look into the future and to say, the atomic power is going to be economic and we can pile up the fuel for the future and we might as well go on mining uranium. Now if we were that farsighted then it would have little effect on the uranium industry. But I would suppose if we had an abrupt disarmament now that it would have a bad effect, of a temporary sort of the uranium mining industry."

FINNEY: "Well, Dr. Libby, this industry which processes these-- I think you call them feed..."

LIBBY: "Materials."

FINNEY: "...the industry that processes them, processes them for bombs would not be the same industry that would..."

LIBBY: "Oh, it would be. That's a very important point. The bombs are the same thing that you use to make atomic power. That is, uranium 235 is used to make bombs and this is what you fuel the Nautilus with and what you fuel the Savannah, the NSS Savannah, the first atomic powered merchant ship, with. And so you can turn your bombs to peaceful uses and that's where our definition, or the name of the project Plowshare comes from, the typical weapon."

HERMAN: "Dr. Libby, are we going to have to continue to use uranium to heat a furnace which will boil water and turn a turbine or are we going to have some kind of electrical power directly from..."

LIBBY: "Mr. Herman there's some hope that we may be able to do just that but I am not able to say what the chances are. We've been boiling water for a

long time and it works pretty well. And I think we'll probably continue to boil it for quite a while, too. But in the future it may be that we can go direct from the reactor to electricity."

LAWRENCE: "Dr. Libby, to return your discussion with Mr. Finney, a setback for the uranium industry, though, would be a might small price to pay for what you call abrupt disarmament, wouldn't it? I mean we could bear this if the world was truly going to disarm."

LIBBY: "If it's real co-sided (?) disarmament, I agree with you."

LAWRENCE: "I mean the loss of the uranium..."

LIBBY: "If it's really co-sided disarmament I would agree with you, but that's a small price and think the uranium miners would agree. We can in due course develop, and we will in due course develop, peaceful uses which will take care of the mine industry, at about its present level or perhaps large, in my opinion. But it's the need for atomic power, which will exist in this country in the future, if atomic power proves to be economic as I think it will be, will easily take care of the uranium industry according to technology as we now know it. Now of course it's possible, it's conceivable, that some other technology will develop. For example if the Sherwood project--this is a project to make atomic power from a hydrogen bomb reactor--if that should succeed then of course that thrives off of water and not off of uranium and that's a different story. But at the present time that seems to be very far in the future, so I'd say that uranium miners have a good long range prospect though there might be ups and downs along the way."

LAWRENCE: "There was a report in the paper this morning that radio fall-out in parts of the United States reached an all time high in July and that in a few places in a short period of time the maximum permissible limit was exceeded."

LIBBY: "Well, I'll tell you what happened. When tests are being conducted you obtain fall-out for short periods of time which if--which exceed the limit that is set for permanent consumption. This is what happened in Los Angeles, two, three weeks ago, and--but in a few hours it dies down to below the tolerance limit. Now, we are not happy about this, and we try to avoid it, but it does occasionally happen in limited areas of the country. And I think that it's not all bad that people realized about fall-out."

"There's a very important point here: That people will have as a principal threat to their lives, in case of war, radioactive fall-out from bombs that are surface blasts, and I'd like to suggest that it's very, very important for people to learn about fall-out and what its properties are and to protect themselves--plan to protect themselves in case of war. The plans for protection is reasonable. I brought along here today what I think is a principal instrument protecting against fall-out."

"This is an ordinary plastic type radio. Now with this you can keep in

touch, even though all electric power is knocked out. And you can keep in touch with the central authorities and find out where the fall-out is coming. Now we are trying to arrange that the manufacturers of these instruments put in them a piece-time rod (?) type of radiation meter so that you would also be able to see how much fall-out you had. That combination plus fixing up your cellar so you have a place to hide for 48 hours or so would save 10,000,000 lives.

"Now we've got to get--we've got to do this, we mustn't think--we mustn't --we mustn't lag about it. It's something we ought to do. And I feel very strongly about this and I think you'll hear more and more about it. So the little bit of fall-out the blows over Los Angeles may have a sort of secondary good effect in acquainting people with the properties of it, so they get an idea about what it is really like."

NOVINS: "We give you many many thanks today for coming in to face the nation and thanks also to today's panel of newsmen; Nat Finney of the Buffalo Evening News; George Herman of CBS News; William H. Lawrence of the New York Times. This is Stuart Novins.

"We invite you to join us next week for another edition of Face the Nation when our guest will be the newly elected Republican senator from Arizona, Barry Goldwater. May I call your attention to the CBS new scientific series Conquest, which starts its second season later today over most of these stations? Face the Nation today originated in Washington."

16 November 1958

(FULL TEXT)

College News Conference at 1:00 P.M. over WMAL-TV (Washington)
and the ABC-TV Network:

Guest: Lt. Gen. Arthur G. Trudeau, Army Chief of Research
and Development.

Moderator: Ruth Hagy.

Panel of college students.

THE PARTICIPANTS WERE SEEN ON THE TV SCREEN,
SEATED IN A STUDIO SETTING.

QUESTION: ". . . I would like first to ask you a more down-to-earth question about the current crisis in Berlin where we understand the Soviets are making the same threatening gestures that they made as a prelude to the closing of the corridor in 1948, and I wondered what you felt the significance of this was?"

TRUDEAU: "Well, you've certainly come to one person who has a particular interest in that situation, because ten years ago when a similar situation occurred, I was in command of the first constabulary brigade which was then guarding 160 miles of our border with East Germany and the Russians on that frontier. At that time, there was a strong recommendation that General Clay, then the governor, stated in his book 'Decision in Germany,' that a task force be sent over the Autobahn, whether there was resistance or not. I happen to have been the commander of that task force, and while there might have been some doubts as to what would have happened to us as a group, there were no qualms in my mind but what that was the thing to have done in those days, and I'm sorry that ten years have elapsed and we're again in this critical situation.

"I note the correspondent from Berlin, as little as 45 minutes ago, stated that this probably was a Russian bid for another summit conference. That may or may not be true. However, we should watch ourselves, as in the last Berlin airlift, while our attention was concentrated on Berlin, all of China went down the drain, and this time we've whip-sawed between Quemoy and Berlin, and while we should keep our eyes on both places, let's not forget the critical importance of the Middle East."

QUESTION: "Do you think this might be a veiled attempt--"

TRUDEAU: "I think it may definitely be a veiled attempt."

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QUESTION: "How do you think they might move if they were to move in the Middle East?"

TRUDEAU: "I don't know. Those are serious questions. The most immediate danger in the Middle East may be the attempt on the part of the Russians to establish a separate Kurdistan. We're beginning to get into political areas though in which I am not primarily authorized to speak-- I'll put it that way."

HAGY: "No, but you are an expert and your educated guesses on this area are very valuable, General Trudeau, because you have been through this experience once before, and therefore your surmise is something I think we all would like to hear and pay attention to."

TRUDEAU: "Well, you're very generous with your comments, and I hope I have over-estimated the seriousness of the situation, but we must be alert, and while I deal with Ph. D.'s to a great extent, and while I recognize the need for increasing the number of people in our scientific field, and I hope some of you young people are majoring in science. Nevertheless, what we need today in this country, in addition to an increase of Ph. D.'s, is an increase in Ch. D.'s, and by that I mean Doctors of Character, people with the courage to stand up for those things that have made America great."

QUESTION: "General Trudeau, there's been a good deal of speculation that the Army will try a moon shoot in the early part of December. Are you making any plans for this early December blast?"

TRUDEAU: "That is reasonable. We have been authorized to make two lunar probes, and one of them could conceivably come forth in December. We are prepared to meet the schedule that was established for us last summer, and we expect to meet the schedule on time."

QUESTION: "Isn't it true that these moon shoots would have to occur at a certain time in the month--wouldn't it be around the early part of the month?"

TRUDEAU: "Yes, certainly. It's recognized now that there are great advantages when the moon has a certain attitude with respect to the earth."

QUESTION: "Will the Jupiter and Sergeant be elements of this lunar rocket?"

TRUDEAU: "The Jupiter will certainly be an important part of this rocket."

QUESTION: "Sir, it's been said in the New York Times that the Air Force Pioneer was the most sophisticated missile ever fired, so my question is does the Army's moon rocket compare with this in sophistication? Are they comparable, sir?"

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TRUDEAU: "The sophistication which you work into a missile is dependent upon the results you want to obtain. We feel that we have a sufficient degree of sophistication to obtain the knowledge that we want in our moon probes, and we also--I'll leave it right there."

QUESTION: "What knowledge is that, sir?"

TRUDEAU: "What's that?"

QUESTION: "What knowledge is that?"

TRUDEAU: "We're seeking several things in this moon probe. It is not a deliberate effort to land on the moon. This is a moon probe in the vicinity of the moon. We want to obtain certain information regarding magnetic fields, the intensity of radiation, cosmic radiation, that occurs in the atmosphere, and also in particular more knowledge about the gravitational effects of the moon, the earth and the sun, where one stops and where the other begins and the relative intensity at various points as we pass through the space."

QUESTION: "Sir, could you review the justifications for the Army's being in this outer-space business? I know it's very frequently questioned."

TRUDEAU: "Well, of course, I think the first justification is that the Army was foresighted enough so that 13 years ago, as the war was over, we succeeded in bringing some of the finest missile experts from Germany. While we brought about 130, however, it should be recognized that more than 4,000 disappeared behind the Iron Curtain. Now those men have worked intensely and intently since 1945 and have developed a tremendous knowledge and expertness in this game. Their success in launching the Explorers, of course, has given the Army quite a bit of prominence in this field, and we feel that for the nation's progress that this great capability should not in any way be dissipated."

HAGY: "You just raised the prize-winning question of the week, or the subject of the prize-winning question, for which Mr. Orman Manly of Racine, Wisconsin, will receive a set of Encyclopaedia Americana. He asks you, General Trudeau, he said what would be the effect on the American missile progress if the National Space Agency takes over the Army scientists, that it wishes to do, particularly the former German rocket experts."

TRUDEAU: "Well, of course, I think you ought to give me a set of encyclopaedias, if I could answer that one adequately. But we hope that the effect would be good, we hope the effect will be wonderful if they decide that that is the proper way to do it. Our concern has been what detriment might occur to the Army's missile program, because we have many missiles that are not involved in space and that is a primary Army responsibility; however, I am sure that the deliberations that are going on

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today will result in a wise decision that will be for the nation's good and for the Army's good."

QUESTION: "Well, General, as you know, some time ago the Army's field of interest in missiles was limited to the 200 mile range, as I believe it, those missiles--anti-missile missiles and those missiles which would be used as tactical ground missiles. Now isn't the dismantling of the Army space team and also Secretary of Defence McElroy's statement the other day that we are moving away from the use of inter-range ballistic missiles--inter-continental ballistic missiles, a part of this program to put the Army back into the role which has been planned for it?"

TRUDEAU: "Well, believe me, the Army has been concentrating on its role with respect to the surface-to-surface missiles that we need in support of our ground forces, and also in those missiles for the air defense of our country and for the troops in the field. There is no--there are no funds that are presently allocated or authorized to the Army that are being spent on space. All of the funds that are being expended by the Army in behalf of space exploration are those funds which have been allocated by the Advance Research Projects Agency in the past, and now by the new National Aeronautic and Space Agency. And they are allocating those funds to us because of our demonstrated capability in this field."

QUESTION: "Speaking of your demonstrated capability in this field."

QUESTION: "Speaking of your demonstrated capability, once before you were expected to lose this team, and then you were able to produce Explorer, a satellite, which gave your program a needed inertia (SIC), as far as funds and support is concerned. Do you think if you launch a successful lunar probe that this might help you to keep your missile team, the Redstone?"

TRUDEAU: "We would expect those in high authority to give a lot of consideration if we have that degree of success, and of course we think we have at least a 50-50 chance of achieving it. But in any event, I am sure a wise decision will be made because there's nobody in responsibility that wants to hurt either the Army's program or our national space program."

QUESTION: "General Trudeau, you mentioned the work that the Army has done on anti-aircraft missiles and anti-missile missiles. In a speech that you made in October, I believe that you stated that right now we have no effective anti-missile missile, that the only one in sight was the Niki Zeus, which is being developed by the Army. I wonder what the hold-up has been in this. It's not very reassuring to know that we have no effective anti-missile missile. How soon do you feel that this missile can be developed and put into operational use?"

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TRUDEAU: "Well, while I can give you no definite figure as to years, Philip, we're making a lot of progress in that, and funds have been provided for the Army in order to expedite our development in this very important field. You are correct; today we have no defense against an incoming ICBM or IRBM."

QUESTION: "General, recently you spoke of the Army's historic mission to seize and hold ground, possibly as might be applied to outer space. Does this mean that if technology shows us that it's possible, you are considering an attempt to land foot soldiers on the moon?"

TRUDEAU: "No, that's not really true. The moon becomes important because it's the nearest terrestrial body that is close to the earth. It's only 230 or 240 thousand miles from the earth, and therefore is the first point on which we would try to expand man's knowledge beyond the atmosphere. The immediate thought of developing the moon as an offensive base or manning it with troops is not in our mind at the present time. As a matter of fact, whoever lands there first is really going to get the hot foot, because, as you may or may not know, the temperature on the moon during part of the day is around 220 or 230 degrees, which is above the boiling point, and when nightfall comes in that same area it goes to minus 250 degrees Fahrenheit, so the idea of anybody paddling around on the moon is a little bit far-fetched, and furthermore there is no atmosphere and no moisture on the moon."

HAGY: "General, then would you comment briefly on the charges which recently have been leveled against the United States in the United Nations by the Russian delegate, who said that we were attempting to seize the moon and launch an offensive, a military offensive, against Russia."

TRUDEAU: "This is the same kind of propaganda that Khrushchev constantly pours out of the Kremlin. It's the same sort of thing that the Chinese have charged against us in the use of gas in Quemoy recently, and in Korea in the past, which may be a justification in their minds for trying to use gas when they get ready, but it has no merit, no validity, and no thinking person seriously puts much weight behind Khrushchev's charges in that respect."

QUESTION: "Sir, in a recent speech by Secretary McElroy, he stated that we were going to de-emphasize the use of the intermediate range ballistic missiles and expand the use of--the possible use of the intercontinental ballistic missile. Following this up, the State Department stated that this would induce no change in our present policy of supplying these missiles--the intermediate range ballistic missiles--to members of NATO. Sir, how do you feel about this?"

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TRUDEAU: "Well, of course, I didn't hear Mr. Khrushchev's (SIC) statement. I know the general nature of it, but certainly with our relative capability of the IRBM, as against the ICBM today, we need everything we have and everything we can develop to meet the very serious Russian challenge to our survival that faces us now and will continue to in the years ahead."

HAGY: "Does this mean that you're disagreeing with your chief, Secretary of Defense McElroy?"

TRUDEAU: "It doesn't mean that at all, it doesn't mean that at all. I'm sure Mr. McElroy would be the last one that would want--"

HAGY: "He's the one who made--who said this at his conference."

TRUDEAU: "Yes, but I'm sure he doesn't want to dispense with our known capability in the intermediate range field before we have developed and employed--deployed a demonstrated capability in the intercontinental ballistic missiles field."

QUESTION: "Going along with the statement by Mr. McElroy, he also is proposing a cut-back of, I believe, 30,000 men in the ground forces of the Army. Now in this speech of yours in October, you brought out very strongly the role of the Army in conventional warfare and our need to be ready to meet brushfire-type warfare. What is your reaction to this proposed cut?"

TRUDEAU: "Well, naturally, no one in the Army is very happy at the prospect. Mr. McElroy operates at a field where he has complete information regarding all the political, the economic, the military, and the psychological aspects of this terrific conflict, this sort of perpetual war, in which we find ourselves, so he may feel, and undoubtedly does feel justified in his position. On the other hand, General Taylor, as you know, has stated that to do the job efficiently, as we see it, we feel that we should have had a few more men. But a soldier's job is to do his job with the capabilities made available."

QUESTION: "Do you feel this cutback is dictated more for budgetary reasons rather than indicating a shift in military thinking toward dependence on this massive retaliation in missiles and so forth and de-emphasis of the role of the ground forces?"

TRUDEAU: "I would hate to think so."

QUESTION: "Sir, I believe your predecessor, General Gavin, seemed to think so and was so thoroughly incensed about it that he decided to resign. Do you feel that you are being exposed to the same restraints that General Gavin was?"

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TRUDEAU: "Well, there's none of us--as I said before--I have been a commander in combat and I have always wanted more resources than I had available, but with what I had I was always prepared to take the defensive or offensive, as the case might be, and that is my position today."

QUESTION: "Have you ever felt angry enough to consider resigning yourself because you weren't getting enough of what you felt you needed?"

TRUDEAU: "No, I don't frustrate easily. I've been kicked off tough places and my only attitude is to go back and take them."

QUESTION: "General, you are not only concerned in your position as head of Research and Development for the Army with these wonder weapons like missiles; you are also concerned with the research and development of conventional weapons, and General Taylor said the other day that a great deal of money was to be spent in the near future, in the next few years, on the modernization of the Army. Now what sort of research and development is your department doing in this field of conventional weapons?"

TRUDEAU: "Well, modernization of the Army is badly needed; there's no question about that. To get back to what we do in Army Research and Development, and as I say, I don't want to be deterred, I don't want my efforts diverted by the space challenge, as important as it is, and because of the exotic and challenging nature of these missiles and satellites--it has a tremendous appeal to the public. But my job is to see that we equip an army that can meet the challenge on the modern battlefield, and to do that there are three--I might say even four principal fields of endeavor. The first is basic research, and in basic research I mean an expansion of man's knowledge. There are so many fields involved here that I could hardly get into it, but new power sources, new fuels, new means of improved fire power, new means of improved communications, and taking advantage of the great advances we have made in the electronics field today, new means of mobility, better trucks on the ground, let's say, those with amphibious capabilities that really have cross-country capability. And particularly, equipment with what we call zero ground pressure, in something that can get above the nap of the earth, that can take advantage of the ground clutter and configuration of the trees and the valleys and the hills, but still carry on and get us better knowledge of what goes on behind the enemy lines and also eventually be equipped with the weapons to cope with anything they see in those areas."

HAGY: "General Trudeau, perhaps being a woman I find it very difficult to resist the exotic and the moon. I wanted to ask you why the Army's chances--estimates its chances at hitting the moon at 50-50 per cent, whereas the Air Force had a very much more modest--had much more modest odds--I think they were one in ten."

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TRUDEAU: "Well, that's very easy to answer. We are not attempting to hit the moon. I'd like to make that clear. We might hit the moon; it's conceivable. At that great distance, one mil, which is a variation of one part in a thousand, could make us hit the moon, or you might say there are 999 chances out of a thousand in which you wouldn't hit the moon, but if we get in the vicinity of the moon, and the gravitational effect of the moon is greater than the gravitational effect of the earth, which it should be at that point, or of the sun, it is entirely possible that our missile might plow into the moon. But it is also entirely possible because we don't know much about gravitation out at that distance in space that we might come within the gravitational effects of the sun and thereby be headed into the sun."

HAGY: "Then would your missile orbit the moon, as the Air Force's was expected to?"

TRUDEAU: "We do not expect--"

HAGY: "If it is successful?"

TRUDEAU: "It could orbit the moon if it fell within the gravitational effects of the moon."

HAGY: "Well, what will happen to it? I mean, what is it going to do when it gets out there?"

TRUDEAU: "It may continue going on out into space."

HAGY: "And if it doesn't continue, then what will happen to it?"

TRUDEAU: "It would fall within the orbit of the sun or the moon."

HAGY: "And then it would orbit either the--"

TRUDEAU: "It could, it could."

HAGY: "It could."

TRUDEAU: "It's a question of relative speed at a particular moment in space and those are some of the things we're trying to find out."

HAGY: "Thank you very much, I wanted to clear up that in my own mind."

QUESTION: "You don't have the same worries that apparently a great many scientists have that if we hit the moon we're liable to contaminate it and ruin it as a subject for study for all time?"

TRUDEAU: "I don't know. I don't claim to be a scientist with a particular respect to that field."

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QUESTION: "But you're not making a great attempt to avoid hitting it for that purpose."

TRUDEAU: "Not a great attempt to avoid hitting it, no. But not a deliberate attempt to hit it; I'd like to make that point clear. We're looking for data on gravitation, on magnetic effects, on cosmic radiation, and there may be a few more on the instrumentation of this missile that's going up--the moon probe."

QUESTION: "Along with this idea of missile research, if the NASA does take over the Army Ballistic Missile Agency in Huntsville, would the Army still have any part in space research, and if so, what would it be?"

TRUDEAU: "That is a good question. I don't know. That will depend upon the national policy and what is decided in that respect. This group at Redstone, that are under discussion, however, about 90 per cent of their effort at the present time is devoted to Army missiles, which is one of the things that makes it necessary for a most careful consideration of their future use so that neither the Army's program nor the space program will be injured, and that both can go to maximum benefit."

QUESTION: "General, in your army career, you have been interested in and you have held positions with the Army security program, and in a recent speech you said, quote, the advance stage of Soviet technology today is due more to Soviet success and espionage and subversion than it is to their scientific apparatus. I wondered if you could tell us some of the areas in which the Soviets have been successful in stealing or whatever term you want to use--I guess stealing would be a good one--stealing secrets."

TRUDEAU: "Yes, I'll address myself briefly to that. There's one phrase that is left off for convenience, in that quote by the press, and in remarking about the scientific capability of the Russians, which is very great, there's a clause on the end that they seem to have dropped off, in quotation, 'as good as it is.' And it is very good. It is very good. The developments, the research into science by Russian scientists has been outstanding, and in Peter (Kapitzer?), who was one of those in the early cosmic field--there may have been no greater scientist--I'm not sure about that, as to how a scientist would view it. But what concerns me is not that they have this scientific knowledge, but that the Russians have always--that is, I say always, in the last two or three decades, lacked the technological know-how to do this job, and much of it has been gained by espionage through our factories or the factories of the free world, learning how we did it, or in obtaining pilot models of critical machinery or critical developments, not so often directly but frequently through second and third nations."

QUESTION: "Can you name specific examples?"

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TRUDEAU: "I don't think it would be particularly wise or becoming of me to do that. And of course the third has been in the defection of scientists, such as Fuchs and others."

QUESTION: "One question I had about that--I realize that when statements are taken out of context they are stronger than they are meant to be or weaker, but the emphasis here that it is due more to Soviet success in espionage than in their scientific apparatus would lead, maybe not logically, to conclusions such as we must have had the Sputnik on the planning board before they did in order for them to swipe it, as an example."

HAGY: "What's your question, Paul? Did we have it?"

QUESTION: "Yes, I mean, if you relate it to the satellite field, we obviously must have had a satellite before they did in order for them to steal it."

TRUDEAU: "We've had a capability of launching a satellite for some time. It finally was demonstrated in Explorer I. I believe that with the proper (funding?) before that, it could have been launched earlier, but that was a matter of national decision and I was not in this particular field at that time, so I do not know the exact circumstances."

QUESTION: "General Trudeau, Murray Snyder, Assistant Secretary of Defense for Public Affairs, recently criticized publications of reports about space programs. Now do you feel that we need to tighten up our security?"

TRUDEAU: "I feel we need to tighten up our security everywhere, my dear. Yes, I was glad to have that support from Mr. Snyder, and also, almost within the same week, the Security Officer, Mr. O'Connor of the State Department, came out and discussed the ease with which passports were granted to people, so that they could literally go to Russia with a briefcase full of plans or anything else that they were able to obtain."

HAGY: "Do you think people are going to Russia with briefcases full of our plans?"

TRUDEAU: "I don't know that, but it certainly would be simple than to have to do it through espionage means and with the utmost of secrecy, and I feel there has been tremendous leakage from this country ever since--ever since we recognized them, as a matter of fact."

QUESTION: "Do you really think espionage is the key to Russian advances in technological fields which they seem to surpass us in?"

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TRUDEAU: "Espionage, the free flow of technical publications, since everyone that develops anything in this country is anxious to let everyone know about it, which is an American way of doing and which I can't criticize, but the free flow of those, plus the ease with which they have obtained critical items, and since you press me, I will name one, and I've said it before, I said it years ago and I say it again, that it's my belief that without the selling to the Russians of five Rolls Royce (Neeny?) jet engines, which they used in their MIG planes, there never would have been any jet planes in the skies over Korea."

HAGY: "On that note, I'm afraid we're going to have to cut our interview, sir, because our time's just run out, General Trudeau."

MEMORANDUM FOR: Mr. Dulles

For your convenience, I have marked in red the portions of the two attached speeches which you may be interested in reading.

Aug 58


W. J. EIR- for

Aug 58

AAB
21 Nov 58
(DATE)

FORM NO. 101 REPLACES FORM 10-101
1 AUG 54 WHICH MAY BE USED.

(47)

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1 FEB 55

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